

# Accelerated Cure Project for MS

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*Accelerating research towards a  
cure for multiple sclerosis*

## Collaboration in Research – Dr. Mireia Guerau

The mission of ACP is to accelerate research with the objective of understanding disease mechanisms and providing better diagnostics, treatments, and cures for MS. Our strategy includes an “open source” model where the resources we’ve developed, like the ACP Repository and iConquerMS™, are made broadly available to investigators and that these resources are used in ways that foster collaboration and learning from the work of others. One of our requirements of the investigators, to whom we provide samples and data, is that any newly generated research results are returned to us in order to be made available to other scientists. Thus a significant aspect of the acceleration of research is the use, by scientists, of ACP’s returned data to add value to their research programs.



Dr. Mireia Guerau at the Ohio State University is an example of a scientist who is working with our Repository samples and also plans to access our returned research data in order to accelerate her research. The mission of the Guerau Laboratory is to identify blood biomarkers linked to disease activity that could help diagnose, predict and/or monitor MS therapy responsiveness. Such biomarkers may optimize therapy thereby reducing long-term disability, and may also provide new targets for therapeutic intervention as part of a larger objective of

investigating mechanisms that drive inflammation and autoimmunity in MS.

One of Dr. Guerau's projects involves the expression of genes that may serve as disease biomarkers in relapsing remitting MS vs. healthy donors. Her lab looks at both ribonucleic acid (RNA) and protein molecules, both outcomes of gene expression, and their consequences on T cells and macrophages that promote MS. Dr. Guerau is using frozen blood cells (which include immune system cells) and RNA samples from the ACP Repository in order to achieve her research objectives.

Dr. Guerau has a specific interest in whether certain MS-risk SNPs are linked to biomarkers in MS vs. healthy donors. In order to gain insights into these links, Dr. Guerau will also be accessing genetic data that has been returned to ACP. This data was generated by the International MS Genetics Consortium (IMSGC), a project that included ACP patient DNA samples in a large, multinational study on genetic markers that are associated with MS. Through access to this returned data set, Dr. Guerau will be able to gain further insights into how genes impinge on MS pathogenic mechanisms and biomarkers. Dr. Guerau's approach of building upon the work of others to complement and enhance her work is a perfect example of the value of the open-source and collaborative model at the heart of ACP's mission.